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ABSTRACT

The impact of Teacher Corps inservice training on classroom management and instruction is outlined. Various indexes and measures of presage and process variables are described and their probable influence on student achievement in reading and mathematics is specified in a series of hypotheses. The relationships of presage variables to process variables were examined by zero-order correlations. The possible generalization of training to the natural teaching styles of the teachers was tested with a correlated t-test. The influence of teaching models and classroom management procedures, as taught in the Teacher Corps inservice training activities, on the achievement of pupils was examined by multiple regression analysis. Results of the study are presented in both narrative and tabular form and the instruments used in the research are appended. (Author/JD)

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Relationships of Inservice Training to Classroom Teaching Models, Management Styles, and Student Achievement

Paper Presented at the Annual Meeting of the American Educational Research Association

This paper is based on data gathered in the San Jose State University/ Alum Rock Teacher Corps Project (12th Cycle). The author is indebted to the students, teachers, and staff of the Southbay School for their interest and cooperation during the two years the Project operated at their school. Special thanks are due to the Teacher Corps Staff who were responsible for the training activities and the data collection; and to Teacher Corps, Washington, for financial and programmatic support.

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SP 015 908

Relationships of Inservice Training to Classroom Teaching Models, Management Styles, and Student Achievement

In the San Jose State University Teacher Corps Project (Cycles 10 and 12) an entire faculty in a single elementary school was involved to varying degrees in an extensive series of in-service training activities over a four-year period. The observed classroom behavior of the pupils in 18 classrooms during the second and third years of the project were reported at a conference of the Teacher Corps Research Cluster in January, 1979. An edited version of that report appears as Chapter 4 in a recent report of the Teacher Corps Research Adaptation Cluster (Morris, Sather, Pine, Richey, Cole, Wheeler, Quirk, Walthew, & Scull, 1979). As described in that report, many desirable changes in the classroom behavior of pupils were observed over the academic years 1976-77 and 1977-78. The data supported the assumption that the classroom management training given to the teachers during the first 3 years of the four-year project was responsible for reductions in pupil acting-out, manipulative behaviors, resistance, withdrawal, and distractibility. The classroom data also demonstrated that the teachers were generally successful in obtaining attentive behavior during instruction and self-directed, task-oriented behavior during seatwork. Since no control groups were used, the changes found could not be demonstrated to have been caused by the specific training provided by Teacher Corps.

In this paper, relationships between student achievement and a number of presage and process variables are reported. Specifically, eleven indexes of teacher overall competence, motivation, and involvement in Teacher Corps training activities and 22 measures of instructional and management styles (as observed in two settings, teacher-directed and program-directed, at the end of the fourth year) were regressed in a step-wise multiple regression analysis using classroom

means in MAT Total Reading and MAT Total Mathematics (T-scores) as the target variables. The analysis was based on scores from 11 classrooms where pre- and posttreatment data on the MAT test batteries were available.

Evaluation Strategy

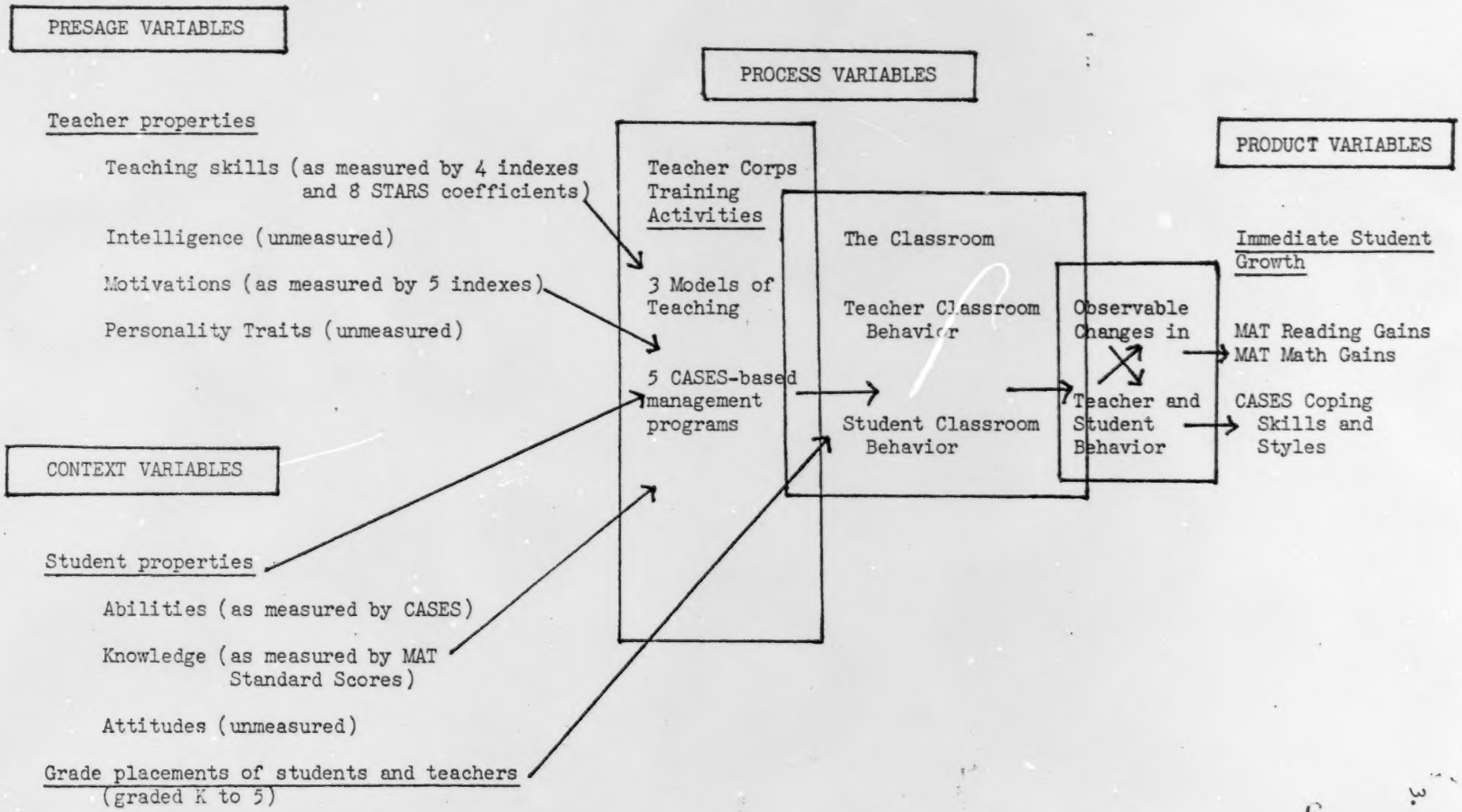
Since no control or comparison classes external to the project school were permitted by Teacher Corps policy, the design strategy focused on obtaining measures of variations found to occur "naturally" in the target school classrooms. Indexes of variation in teacher competence, motivation, and involvement in Teacher Corps activities were created by asking project personnel who had personal knowledge and detailed records of the classroom and workshop performance of the 18 teachers in the project school to rank-order the teachers along a series of continua such as "receptivity to training activities," "commitment to professional self-development," "participation in Teacher Corps workshops and training activities," "skill in classroom instruction," "skill in classroom management," and "overall competence in the use of the classroom management procedures." In addition, two indexes of participation in Teacher Corps training activities were constructed from project records by counting the number of workshops and meetings and the number of feedback sessions and case studies in which each teacher had participated. It was hypothesized that variations in teacher participation, baseline competence, motivation, and involvement would be found correlated with measures of pupil performance in reading and mathematics.

Presage Variables. The model of hypothesized influence is given in Figure 1. Teacher characteristics such as openness to new ideas and willingness to try out new methods in the classroom were believed to influence the effectiveness of the Teacher Corps in-service training program. The initial management and instructional skills possessed by the teachers were also felt to be important. It was assumed that teachers who felt secure and competent as teachers would be more

Figure 1

SAN JOSE STATE UNIVERSITY TEACHER CORPS PROJECT (CYCLE 12)

Model of Hypothesized Influence (Path Analysis)


PRESAGE VARIABLES
Teacher properties
Teaching skills (as measured by 4 indexes and 8 STARS coefficients)
Intelligence (unmeasured)
Motivations (as measured by 5 indexes)
Personality Traits (unmeasured)
CONTEXT VARIABLES
Student properties
Abilities (as measured by CASES)
Knowledge (as measured by MAT Standard Scores)
Attitudes (unmeasured)
Grade placements of students and teachers (graded K to 5)
PROCESS VARIABLES
Teacher Corps Training Activities
3 Models of Teaching
5 CASES-based management programs
The Classroom
Teacher Classroom Behavior
Student Classroom Behavior
Observable Changes in Teacher and Student Behavior
PRODUCT VARIABLES
Immediate Student Growth
MAT Reading Gains
MAT Math Gains
CASES Coping Skills and Styles

receptive to observers in their classes and to feedback from the project staff.

Motivations to participate in Teacher Corps training activities were assumed to derive from several sources. Among them was a varying commitment to professional self-development and self-actualization. Receptivity to training activities provided by the Teacher Corps was assumed to be mediated by such commitments.

Intelligence and personality traits, although known to be important as mediating variables, were not assessed in the present analysis.

Context variables. Several context variables were measured or assessed. Among them were pupil classroom behaviors and initial pupil achievement (as measured by the MAT). The grade placements of students and teachers were used to establish standard score distributions for each MAT test administration. Initial pupil achievement was assumed to be a primary source of variance in the final achievement demonstrated by students in the spring of the final year of the project (April, 1979).

Process variables. The in-service training provided by the Teacher Corps Project had two major components--training in 3 models of teaching (concept attainment, inquiry, and synectics) and training in classroom management and instruction using CASES (Spaulding, 1978) as a source of data on pupil behavior and CASES-based treatments as specific methods to be used with specific styles of pupil behavior. Participation in these training activities was assessed by an examination of records of attendance at workshops, feedback sessions, micro-teaching sessions, television feedback conferences, and related in-service meetings.

It was, also, assumed that the effects of specific Teacher Corps training would be mediated through changes in the day-to-day natural teaching styles of the project teachers. It was, specifically, anticipated that any improvements in pupil achievement resulting from the Teacher Corps in-service training program would be traceable to concomitant changes in the classroom management and instructional styles of the teachers.

Product variables. The two areas of student growth targeted for change by the Teacher Corps project were academic achievement and classroom social and task-oriented behavior. Academic achievement was assessed by testing all students in grades one through five with the Metropolitan Achievement Test battery (Levels Primary I, Primary II, and Elementary, as appropriate) in April of each year. Data for the present analysis came from test administrations in the third and fourth years of the project. The raw score distributions in Total Reading and Total Mathematics were transformed to T-scores within each grade at each test administration. Mean T-scores for each class were produced using only the scores of students tested in both years.

CASES data on each pupil were gathered during the second and third years of the project and the results of the in-service training on pupil social and task-oriented classroom behavior were reported earlier (Morris, et al, 1979).

Hypotheses

The analyses reported in this paper were intended to provide information regarding the following research hypotheses:

Hypothesis 1. Training in each of the three models of teaching (concept attainment, inquiry training, and synectics) will increase the use of elements of each of the models in the "natural" day-to-day teaching style of the teachers in the sample.

Hypothesis 2. The generalization of training in the three models of teaching to the natural teaching style of the teachers in the sample will occur in proportion to the degree of participation of each teacher in the Teacher Corps workshops and training activities.

Hypothesis 3. The presence of elements of the three models of teaching in the natural teaching styles of the teachers in the sample will contribute positively to gains in pupil reading and mathematics.

Hypothesis 4. Training in the CASES-based management and instructional styles (treatments) designed to match five social learning styles of pupils will generalize to the natural teaching styles of the teachers in the sample.

Hypothesis 5. The generalization of training in the CASES treatments to the natural teaching styles of the teachers will be found correlated positively with the amount of feedback received from observers and the number of case studies made using CASES methodology.

Hypothesis 6. The presence of elements of the five CASES-based teaching styles (treatments) will contribute positively to gains in pupil reading and mathematics.

Hypothesis 7. Generalization of elements of the three models of teaching (concept attainment, inquiry training, and synectics) and of the five CASES-based treatments to the natural teaching style of the teachers in the sample will correlate positively with indexes of motivation, commitment to professional self-development, and overall competence in management and instruction.

Results

Hypothesis 1. A test of the generalization of training in the use of the three models of teaching was made by comparing the STARS coefficients for Discovery Style (concept attainment), Socratic Style (inquiry), and Transductive Style (synectics) obtained in all settings in eleven classrooms in academic 1977-78 with the STARS coefficients for the same three styles in all settings in April of 1979. The differences were tested with a correlated t-test. The results of these tests are given in Table 1. (See, also, Appendix A for a description of the STARS instrument.)

Small, but statistically significant, increases were found in Socratic style (five teachers showed small increases, one a decline, and five had no elements of the style present at either period of observation). None of the other comparisons of STARS teaching styles was found significant. Hypothesis 1 is given very meagre support. As measured by observations using STARS on random visits to eleven of the

Table 1

Paired t-tests of Pre- and Post-STARS Visibility Coefficients for 11 Teachers Regarding 3 Models of Teaching and 5 CASES-based Management Styles

	STARS Style Coefficients (Means of TD and PD Observations)[a]															
Teacher I.D. #	#8 Discovery		#9 Socratic		#21 Synectics		#13 Style A		#14 Style B		#15 Style C		#16 Style D		#17 Style E/F/G	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	46	07	01	07	11	00	28	40	37	10	33	26	27	41	37	13
3	01	00	00	00	00	00	38	41	00	00	26	15	34	36	00	00
11	73	00	03	00	02	00	42	49	19	11	33	27	26	44	18	13
17	08	39	13	20	00	14	62	29	19	02	44	19	59	27	17	02
21	00	07	00	00	00	00	63	69	10	06	35	40	45	52	08	04
31	04	03	02	28	16	14	70	84	25	27	59	57	58	65	52	28
32	12	00	00	00	00	00	27	49	03	04	19	23	16	36	00	00
41	02	00	00	00	11	00	35	42	06	17	21	33	25	28	10	11
53	01	09	00	08	01	03	34	42	24	30	29	38	28	43	24	28
88	04	60	00	10	02	22	36	48	07	22	27	38	29	37	07	41
90	00	00	00	00	00	00	35	08	02	00	15	02	27	07	06	00
Mean	14	11	02	07	04	05	43	46	14	12	31	29	34	38	16	13
Paired t-test Statistics																
$\bar{D}$[b]	-.03		.05		.01		.03		-.02		-.02		.04		-.03	
S_D	.33		.08		.09		.18		.12		.12		.16		.16	
t	-.23		1.99		.33		.70		-.58		-.60		.79		-.75	
df	10		10		10		10		10		10		10		10	
p	ns		<.05		ns		ns		ns		ns		ns		ns	

[a] Decimal points have been omitted from the body of the table to save space. STARS style descriptions are given in Appendix A.

[b] Decimal points have been included in the t-test statistics.

project school classes during 1977-78 and April 1979, there is little evidence of generalization of training to the natural teaching styles of these teachers.

Hypothesis 2. Since Hypothesis 2 concerns the assumed linkage of changes in natural style to participation in Teacher Corps training activities, the only style to be examined is the Socratic instructional pattern. To test this hypothesis the zero order correlations between two indexes of participation and the STARS coefficients for Socratic teaching in April 1979 were examined. The relevant data are shown in Table 2.

Table 2

Correlations Between STARS Visibility Coefficients for Socratic Teaching Style (in Teacher-directed and Program-directed Settings) and Indexes of Participation in Training Activities

Index	Correlations with STARS #9 (Socratic) TD	p	PD	p
PDS Index of Participation in Training Activities	-.05	ns	.07	ns
Index of CASES Feedback and Case Studies	-.11	ns	.53[a]	<.05

Note: N = 11

[a] $t = 1.875$, df = 9

The results of this analysis indicated that there was no relationship between the degree of participation in Teacher Corps workshops and micro-teaching sessions and the generalization of the inquiry model as measured by STARS Socratic Style coefficients in April 1979. The measure of generalization was made over two days in random visits during reading and mathematics periods approximately one year after specific training in the inquiry model had been completed.

The findings for the second index were more substantial. A positive correl-

ation of .53 (df = 9, t - 1.875, p <.05) was found between the STARS Socratic Style and the index of the number of feedback sessions held and the number of case studies made in each teacher's classroom. Although the major focus of the feedback conferences was classroom management, this result suggests that changes in a teacher's natural style are more likely to occur when training activities are provided on a one-to-one basis and are closely related to the day-to-day in-classroom problems faced by teachers.

Hypothesis 3. As in the second hypothesis, this one is conditioned upon the finding of training effects in the naturalistic teaching styles of the project teachers. The possible contribution of the presence of some elements of the Socratic Style in the naturalistic style of five teachers was examined by multiple regression analysis. The independent variables employed are listed in Table 3.

The multiple regression procedure was completed twice, once with MAT Total Reading as a dependent variable and once with MAT Total Mathematics as the dependent variable. The initial standings of the pupils in both reading and mathematics were allowed to enter the equation to assess the influence of initial status in reading and mathematics. As was mentioned earlier, only students who took the tests at both administrations were included in the analysis. Their raw scores were transformed to T-scores within each grade at each test administration. Means for each class were then computed and the regression analysis was based on mean T-scores for 11 classes (grades 2 through 5).

The test of Hypothesis 3 involved the possible contribution of the STARS Socratic Style (in teacher-directed or program-directed settings) to MAT Total Reading and MAT Total Mathematics.

The summary data for the two multiple regression analyses are shown in Tables 4 and 5. Examination of these tables indicated that elements of the STARS Socratic Style found in the natural teaching styles of five teachers in the sample did not contribute significantly to variance in reading and mathematics achieve-

Table 3

Independent Variables Used in Regression Analysis

Var. No.	Variable Name	Variable Description
1	PREREAD	MAT Total Reading T-Score (4/1979)
2	PREMATH	MAT Total Mathematics T-Score (4/1979)
3	JIMSSD	Principal's Index of Commitment to Professional Self-development (1978)
4	KARENSSD	T. L.'s Index of Commitment to Professional Self-development (1978)
5	BEVSSD	Train. Spec.'s Index of Commitment to Professional Self-development (1978)
6	GRETASTR	Associate Director's Index of Receptivity to Training (1977)
7	MIKESTR	PDS's Index of Likelihood of Transfer of Training (1978)
8	MIKESPAR	PDS's Index of Participation in Training Activities (1979)
9	CASESFBK	Total number of case studies and feedback conferences (1979)
10	BEVMGMT	Training Specialist's Index of Initial Management Skill (1977)
11	BEVINST	Training Specialist's Index of Initial Instructional Skill (1977)
12	LIZRANK	Observer A's Index of Competence using CASES methodology (1978)
13	BRENRANK	Observer B's Index of Competence using CASES methodology (1978)
14	STARS T1	Visibility Score for Narrative Style in Teacher-directed Settings (4/1979)
15	STARS P1	" " " " " Program-directed " "
16	STARS T2	" " " Lecturer Style " Teacher-directed " "
17	STARS P2	" " " " " Program-directed " "
18	STARS T3	" " " Examiner Style " Teacher-directed " "
19	STARS P3	" " " " " Program-directed " "
20	STARS T4	" " " Entertainer " " Teacher-directed " "
21	STARS P4	" " " " " Program-directed " "
22	STARS T6	" " " Counselor Style " Teacher-directed " "
23	STARS P6	" " " " " Program-directed " "
24	STARS T8	" " " Discovery Style " Teacher-directed " "
25	STARS P8	" " " " " Program-directed " "
26	STARS T9	" " " Socratic Style " Teacher-directed " "
27	STARS P9	" " " " " Program-directed " "
28	STARS T10	" " " Manager Style " Teacher-directed " "
29	STARS P10	" " " " " Program-directed " "
30	STARS T11	" " " Expository " " Teacher-directed " "
31	STARS P11	" " " " " Program-directed " "
32	STARS T12	" " " Rote Process " Teacher-directed " "
33	STARS P12	" " " " " Program-directed " "
34	STARS T13	" " " Style A Treatment in Teacher-directed Settings "
35	STARS P13	" " " " " Program-directed " "
36	STARS T14	" " " Style B Treatment " Teacher-directed " "
37	STARS P14	" " " " " Program-directed " "
38	STARS T15	" " " Style C Treatment " Teacher-directed " "
39	STARS P15	" " " " " Program-directed " "
40	STARS T16	" " " Style D Treatment " Teacher-directed " "
41	STARS P16	" " " " " Program-directed " "
42	STARS T17	" " " Style E/F/G " " Teacher-directed " "
43	STARS P17	" " " " " Program-directed " "
44	STARS T18	" " " Responsive Explainer Style in TD Settings "
45	STARS P18	" " " " " " " PD Settings "
46	STARS T19	" " " Supportive Guide " " TD Settings "
47	STARS P19	" " " " " " " PD Settings "
48	STARS T21	" " " Transductive Style in Teacher-directed Settings "
49	STARS P21	" " " " " Program-directed Settings "
50	STARS T22	" " " Structuring Supervisor Style in TD Settings "
51	STARS P22	" " " " " " " PD Settings "

Table 3 (Continued)

Independent Variables Used in Regression Analysis

Var. No.	Variable Name	Variable Description
52	STARS T23	Visibility Score for Field Sensitive Style in TD Settings (4/1979)
53	STARS P23	" " " " " " PD " "
54	STARS T24	" " " Field Independent " " TD " "
55	STARS P24	" " " " " " PD " "
56	STARS T25	" " " Director " " TD " "
57	STARS P25	" " " " " " PD " "

ment. No support for the influence of training in the three models was provided by these analyses.

Hypothesis 4. The fourth hypothesis concerned the possible generalization of training in the use of the CASES-based classroom management and instructional treatments to the natural teaching styles of the project teachers. The findings relevant to this hypothesis are shown in Table 1. As mentioned in the discussion of Hypothesis 2, there was no evidence to support this hypothesis. The changes observed in the natural teaching styles of the eleven teachers (with reference to use of the five CASES-based treatment schedules) were small and non-significant.

Hypothesis 5 & 6. Although no generalization of training effects was found in the comparisons made of STARS data taken in 1977-78 and April 1979, there may have been elements of the 5 CASES-based teaching styles in the repertoires of the eleven teachers at the time of first assessment (1977-78). Even though no significant increases were found, possible contributions of existing elements were examined by the multiple regression analysis.

As shown in Table 4, two CASES-based STARS styles were found to contribute a small amount of variance to MAT Total Reading. These were Style D Treatment (in teacher-directed settings) and Style E Treatment (in teacher-directed settings). Style D contributed negatively to the prediction of reading achievement and Style E contributed positively. A little over 3% of the increase in reading variance could be attributed to Style D and about one-half of 1% to Style E behavior. These findings do not provide substantial support for the hypothesis. The level of contribution to variance (as measured by the F level) is also marginal ($p = .05$). Further studies are needed to assess the influence of the CASES-based treatments on student achievement. It will be necessary to identify whether the teacher is matching the STARS treatment style used to the behavior characteristics of the pupils. The degree of appropriate matching of teacher treatment to student behavior style, rather than a sheer increase in the use or each of the CASES-based

Table 4

Stepwise Multiple Regression Analysis (11 Classrooms)

Dependent Variable: MAT Total Reading T-Score (Class Means - April 1979)

Step No.	Variable Description	Beta	R	R^2	Increase in R^2
1	MAT Mean Total Reading T-Score (4/1978)	.463	.882	.777	.777
2	Responsive Explainer in PD Settings (STARS #18)	-.223	.946	.894	.117
3	Field Independent Style in TD Settings (STARS #24)	-.417	.972	.944	.050
4	Style D Treatment in TD Settings (STARS #16)	-.285	.987	.975	.031
5	Supportive Guide in TD Settings (STARS #19)	.308	.995	.991	.016
6	Style E Treatment in TD Settings (STARS #17)	.190	.998	.997	.006
7	Team Leader's Index of Teacher Self-development	-.198	.999	.999	.003
8	Director Style in PD Settings (STARS #25)	.048	.999	.999	.000
9	Socratic Style in TD Settings (STARS #9)	-.011	1.000	1.000	.000

Table 5

Stepwise Multiple Regression Analysis (11 Classrooms)

Dependent Variable: MAT Total Mathematics T-Score (Class Means - April 1979)

Step No.	Variable Description	Beta	R	R^2	Increase in R^2
1	MAT Mean Total Math T-Score (April 1978)	.979	.881	.776	.776
2	Training Spec.'s Index of Instructional Skill (1978)	-.184	.940	.883	.107
3	Structuring Supervisor in TD Settings (STARS #22)	-.339	.971	.943	.059
4	Assoc. Dir.'s Index of Receptivity to Training (1977)	.238	.995	.989	.047
5	Entertainer Style in TD Settings (STARS #4)	-.146	.999	.998	.008
6	PDS's Index of Receptivity to Training (1978)	.059	.999	.999	.001
7	Observer A's Index of Management Skill (1978)	-.078	.999	.999	.001
8	Lecturer Style in TD Settings (STARS #2)	-.030	1.000	1.000	.000
9	Observer B's Index of Management Skill (1978)	-.004	1.000	1.000	.000

treatments, should predict student achievement.

Hypothesis 7. This hypothesis was based on the expectation of generalization of training to natural teaching styles and predicted relationships between measures of elements of the three models of teaching and of the five CASES-based treatments (in the natural teaching styles of the teachers) and indexes of motivation, commitment to professional self-development, and overall competence in management and instruction. The zero order correlations between these variables are shown in Table 6.

The correlations shown in Table 6 indicate that only the Team Leader was able to predict the generalization of training to the natural teaching styles of the project teachers. Her ranking of commitment to professional self-development, however, did not correlate with elements of the three models of teaching that were strongly emphasized in the workshops and micro-teaching practice sessions.

These non-significant findings for most of the indexes may have been the result of the inability of the project staff members and the school principal to judge accurately the motivation, commitment, and/or competence of the teachers or they may accurately reflect the lack of a true relationship between these variables. In the case of the index of commitment to professional self-development created by the Team Leader, her close association with the teachers over the years prior to the project may have permitted her to arrive at a more valid index. Although the ranking was made during the first year of Cycle 12, the correlations found may reflect the Team Leader's awareness of her colleagues' management and instructional skills at that time (after the completion of Cycle 10 training activities) and not an independent assessment of commitment to professional self-development. The source of the relationship found is not clear and cannot be established by reference to correlations. Further research will need to be done to find out whether "a commitment to professional self-development" is, in fact, a necessary condition for the in-service training in CASES-based treatment programs to generalize to the natural teaching styles of classroom teachers.

Table 6

Zero Order Correlations Between 8 STARS Style Coefficients

and 9 Indexes of Motivation and Competence

Index Name	#8 Discovery		#9 Socratic		#21 Transductive		#13 Style A		#14 Style B		#15 Style C		#16 Style D		#17 Style E/F/G	
	TD	PD	TD	PD	TD	PD	TD	PD	TD	PD	TD	PD	TD	PD	TD	PD
JIMSSD	.32	-.09	.13	.19	.41	-.01	.00	.55	.33	.19	.60*	.41	.13	.44	.55*	.20
KARENSSD	.25	-.33	.17	.00	.31	-.24	.56*	.62**	.62**	.16	.85***	.42	.62**	.59*	.70**	.10
BEVSSD	.26	.50	.15	.32	.31	.24	.05	.07	.15	-.20	.42	.03	.27	.00	.26	-.20
GRETASTR	-.21	.36	.01	.47	.37	.53*	.01	-.19	.42	-.18	.36	-.01	-.05	-.14	.18	-.15
MIKESTR	.23	-.01	.07	.17	.28	.00	.10	.45	.09	-.12	.44	.39	.26	.45	.32	.15
BEVSMGMT	-.32	-.56*	-.49	-.40	-.15	-.41	-.06	-.11	-.45	-.43	-.16	-.44	-.09	-.22	-.33	-.45
BEVSINST	.09	-.23	-.15	-.16	.18	-.25	.21	.25	-.25	-.33	.30	-.20	.34	.09	.05	-.37
LIZRANK	.17	-.24	-.06	-.07	.28	-.17	.07	.44	-.10	-.10	.43	.05	.16	.26	.22	-.10
BRENRANK	.04	-.50	-.20	-.17	.09	-.30	.06	.57*	-.06	-.07	.41	.22	.07	.52	.16	.08

The index descriptions are as follows:

JIMSSD = The principal's ranking of commitment to professional self-development.
KARENSD = The team leader's ranking of commitment to professional self-development.
BEVSSD = The training specialist's ranking of commitment to professional self-development.
GRETASTR = The Assoc. Dir.'s ranking of receptivity to training (as of 1977).
MIKESTR = The PDS's ranking of likelihood of transfer of training (1978).
BEVSMGMT = The training specialist's ranking of initial management skill (1977).
BEVSINST = The training specialist's ranking of initial instructional skill (1977).
LIZRANK = Observer A's ranking of competence using CASES methodology (1978).
BRENRANK = Observer B's ranking of competence using CASES methodology (1978).

* p .05 (one tailed test)
* p .01 (one tailed test)
*** p .001(one tailed test)

As for the correlations of the several indexes with the teachers' scores on the STARS styles matching the three models of teaching, no strong pattern of relationships was found.

Summary

A strategy for assessing the impact of Teacher Corps in-service training on classroom management and instruction was outlined. Various indexes and measures of presage and process variables were described and their probable influence on student achievement in reading and mathematics was specified in a series of hypotheses.

The relationships of presage variables to process variables were examined by zero-order correlations. The possible generalization of training to the natural teaching styles of the project teachers was tested with a correlated *t*-test. The possible influence of specific teaching models and classroom management procedures (as taught in Teacher Corps in-service training activities) on the achievement of pupils in reading and mathematics was examined by multiple regression analysis.

The results of these analyses provided support for the following statements:

1. Small, statistically significant increases were found in the Socratic Style of teaching in the natural teaching styles of five project teachers one year after the specific training in the model had been completed.

2. The number of on-site feedback sessions and case studies made correlated significantly with the degree to which elements of the Socratic (inquiry) Style were manifested in the natural styles of the teachers (in non-teacher-directed settings) at the end of the project.

3. None of the measures and indexes of generalization of training to the natural styles of the teachers was found to contribute a significant amount of variance to pupil achievement in reading and mathematics.

4. Among the several indexes of teacher readiness to participate in Teacher Corps activities, only one was found to correlate strongly with teaching styles taught in the in-service training program. This one was the Team Leader's ranking of her colleagues' commitment to professional self-development. Of eight teaching styles (or models) specifically em-

phasized in the San Jose State University Teacher Corps Project and assessed with the STARS classroom observation system, scores for the five CASES-based treatment programs were found to correlate significantly with the Team Leader's index of commitment to professional self-development.

These results, taken together, suggest the importance of assessing teacher motivation in any program of inservice training and of gearing all training undertaken to the specific, on-the job, individual needs of teachers. Close observation of classroom process, guided by teacher self-assessments of professional needs, and followed-up with one-to-one conferences providing specific feedback regarding day-to-day problems of management and instruction, may provide the kind of support that will permit teachers to adapt and adopt new methods and procedures which will ultimately contribute to increased student growth.

References

Morris, L., Sather, G.A., Pine, G.J., Richey, R.C., Cole, W., Wheeler, A., Quirk, W., Walthew, J. & Scull, S. (Eds.). Adapting educational research: Staff development approaches. University of Oklahoma, Norman, Oklahoma: Teacher Corps Research Adaptation Cluster, 1979.

Spaulding, R.L. Adapting teaching styles to learning styles. Journal of Classroom Interaction, 1978, 14 (1), 10-18.

Appendex A

THE SPAULDING TEACHER ACTIVITY RECORDING SCHEDULE (STARS)[1]

The Spaulding Teacher Activity Recording Schedule (STARS) is a category system designed to characterize the cognitive instructional strategies of teachers as well as their management and control techniques. The present form has evolved from an earlier, more primitive form published in Mirrors for Behavior (Simon & Boyer, 1970). It is used in conjunction with the Coping Analysis Schedule for Educational Settings (CASES) to obtain assessments of 25 classroom teaching and management styles.

Description of Categories

The STARS observation instrument consists of 25 basic categories which are subsumed under several molar categories: affective behavior, motor and social structuring, concept attainment and development, concept checking, value expression, and listening/observing. (A brief form of STARS is appended.)

Teacher affective behaviors are coded as disapproval with aversive stimuli present, disapproval by removal of social or physical reinforcers, ignoring, and approval with positive affect present.

Social and/or motor structuring and r structuring behaviors refer to the setting, repeating, or clarifying of soci or motor performance goals.

Instructional behaviors relating to concept attainment are divided into discovery and expository modes, with the discovery techniques being further classified as inductive, deductive, or transductive, and the expository techniques separated into telling and use of rote process. All concept checking and concept attainment categories, with the exception of transductive, are further categorized into operations that require a low-level cognitive response (factual or categorical) or high-level cognitive response (theoretical or functional).

A focusing category includes the giving of cues and the pointing out of relevant dimensions of the stimulus array provided by the teacher during instruction.

Concept checking procedures are classified as asking for recall of materia previously learned or asking for use or application of knowledge.

Value expression has two components--the teacher's expression of values, needs, desires, etc., and the elicitation of student values, needs, or desires, etc.

Additional categories included are teacher non-interactional behaviors and listening to or observing student initiated behaviors.

DATA Collection Procedures

STARS data are gathered normally by time sampling or round-robin sampling techniques. Time sampling is usually done every 10 seconds and the coded behavior is recorded on a data sheet. Since the instrument was designed to measure teacher-pupil transactions, the CASES instrument is used in conjunction

[1]Formerly entitled "The Spaulding Teacher Activity Rating Schedule."

with STARS. At each 10-second mark a CASES code for the class as a whole or an individual is scored, followed immediately by a STARS code, which reflects the teacher's response to the individual or the group at that moment.

Training of Observers and Reliability

Observers can be trained to use both CASES and STARS in combination in approximately 36 hours of training. It is customary to obtain reliabilities in the low eighties or higher on STARS and CASES together and in the high eighties or low nineties on CASES when used alone. The primary method of training is simultaneous observation of a video-tape of a teacher in an on-going classroom by two observers, followed by simultaneous observation in a live setting.

Since CASES and STARS are employed simultaneously in data collection, reliabilities on each instrument are first established separately. When both category systems have been mastered, training shifts to the use of the two in combination. Prior to classroom observation, practice coding using video tapes occurs. The video tape arrangement permits replay and analysis at each point in the flow of behavior. With video tape equipment it is possible to select short sequences representing various instructional styles or strategies and review the sequences several times to high-light coding disagreements and establish a common understanding of the category identifiers.

In conjunction with video training, actual classroom observations are done. Two observers simultaneously observe a teacher beginning on a 60-second or 30-second time-sampling schedule. Gradually, as reliability coefficients increase, the time interval is reduced to 10 seconds.

Scoring of Data

STARS and CASES data, gathered simultaneously, yield scores on 25 commonly recognized teaching patterns or styles. The STARS style scores are expressed as coefficients, where the value of 1.0 represents the threshhold of visibility for a given teaching or management style.

Uses of the STARS Instrument

STARS has been used in teacher training and staff development to provide feedback to teachers on their instructional and management behaviors. It can be used with CASES to identify the presence of specific teacher competencies in regular classrooms and characterize an individual teacher's teaching repertoire.

STARS style Scores can be used as dependent measures in field-based experimental studies of teaching and curriculum development and as an independent variable in process-product classroom research.

Reference

Simon, A. and Boyer, E. G. (eds.), Mirrors for behavior: An anthology of observation instruments, Philadelphia: Research for Better Schools, 1970.

The Spaulding Teacher Activity Rating Schedule (STARS)
(Brief Form)

Categ. No.	Sym-bol	Description of Category
01	Non	Non-transactional with students
02	-	Disapproval (with aversive affect)
03	T/O	Time-out (withholding reinforcement by removal)
04	Ign	Withholding attention (ignoring specific acts)
05	+	Approval (with positive affect)
06	S	Setting performance goals, limits, actions & procedures
07	R	Reminding & redirecting regarding limits, goals & procedures
08	Digr	Digressions
09	Lo↑	Concept formation or attainment by discovery methods (low level)
10	Hi↑	Complex concept formation or attainment by discovery methods
11	Lo↓	Concept formation or attainment by deductive methods (low level)
12	Hi↓	Complex concept formation or attainment by deductive methods
13	→	Concept formation or attainment by transductive methods
14	TLo	Concept formation or attainment by expository methods (low level)
15	THi	Complex concept formation or attainment by expository methods
16	RP	Concept formation or attainment by rote process
17	Mot/Inf	Motivational statements and/or incidental information
18	F	Focusing attention
19	ARLo	Asking for recall of low level facts or information
20	ARHi	Asking for recall of complex concepts or principles
21	AULo	Asking use of low level facts or information
22	AUHi	Asking use of complex concepts or principles
23	ExV	Expressing values, needs, opinions, feelings, etc.
24	ElV	Eliciting values, needs, opinions, feelings, etc.
25	L/O	Listening and/or observing

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Descriptions of STARS Teaching Styles

STARS
Key # Name & Description

1. The Story Teller. This teaching pattern consists of 5 transactions. Children (students) listen attentively while the teacher reads, narrates, explains, and tells (6a/TLo) or while he/she motivates them to pay attention and share or contribute (6a/Mof). Three other transactions include the sharing or contributing by children followed by teacher telling (7a/TLo), motivation (7a/Mot), or observing and listening (7a/L/O).

   In this teaching style the teacher tells or reads and the students listen attentively or contribute. The teacher also motivates the students to contribute and he/she listens to the contributions of the students. The pattern does not include teaching transactions in which students are not attentive or contributing or sharing appropriately. A typical setting is story time in a Kindergarten or preschool. It would also characterize reading to older students who are contributing or sharing appropriately.

2. The Lecturer. In this teaching pattern the instructor tells, explains, describes, illustrates, etc., while students either attend minimally or engage in various inappropriate activities. They may fool around, read to themselves, watch other students, talk to or interact with each other (off-task), daydream, or gaze around at movements and noises in the room. The instructor reminds those who are not listening attentively to pay attention. He/she may also ask the students to recall or apply abstract concepts that he/she has been describing or explaining.

3. The Examiner. The Examiner focuses student attention on content areas and asks for recall or application of specific information. Both high level and low level cognitive operations are requested. The students submit passively to the requests for recall and application and contribute or recite as requested. The teacher praises or otherwise rewards those students who respond as directed.

4. The Entertainer. In this teaching pattern the teacher frequently digresses from the subject matter while the students pay close attention, frequently contributing digressions of their own or interacting integratively with the teacher or with each other. The teacher also expresses his or her own point of view, opinions, or values, along with the digressions from the academic subject-matter at hand.

5. The Controller. The Controller uses negative control techniques, such as criticism and threat of punishment, to keep students on-task. That is, students who are appropriately engaged are ignored, or at least not reinforced for being on-task. Positive control techniques (such as praise or other rewards for appropriate behavior) are not a characteristic of this management style. When students are observed to be off-task, inattentive, distracted, drowsy, or wandering about they are reprimanded and redirected with negative affect (scored as "-" rather than "R" because of the affective charge given the redirection).

6. The Counselor. The Counselor responds to the help-seeking behaviors of students by listening to their requests, setting goals and procedures, giving reinforcers, redirecting behavior, reminding them of previously set procedures or standards, motivating them to follow procedures or guidelines, and/or eliciting their opinions, feelings, attitudes, or values.

7. The Pseudo-Peer. Teachers who show the Pseudo-Peer pattern attend to and reinforce the integrative off-task and disruptive behavior of students. They also respond to such behavior by digressing and expressing their personal opinions, values, and attitudes.

8. The Discovery Teacher. The Discovery Teacher focuses the attention of students on specific items or arrays of concrete material or representational data and elicits categorization, grouping, or sorting activities. Recall or application of specific items or data relevant to the inductive process (as perceived by the instructor) may also be requested. The instructor may frequently motivate the students to pay attention and structure their responses by describing goals, objectives, steps, materials, etc,, to facilitate the induction of concepts.

9. The Socratic Teacher. Instructors using Socratic techniques focus on "givens" and request deduction of logical implications to be drawn from designated factual information and/or premises. The "givens" may be concrete or abstract. The Socratic teaching style includes requests for recall of specific premises, information, or principles and the use of such specifics in the process of deduction and in generalizing beyond the premises or specific information given. Hypothesis generation from observed phenomena (or reports of phenomena) and testing of such hypotheses are characteristic of this pattern.

10. The Manager. This is a management style rather than an instructional or counseling style. It is based on principles of behavior modification and contains the basic, common elements of the 5 CASES treatment schedules (identified as STARS patterns 13 through 17, inclusively). The Effective Manager uses an appropriate time-out procedure when students are physically or verbally abusive, or when they are seriously disruptive of normal classroom processes (CASES categories 1 and 2). They also are aware of a variety of manipulative and off-task behaviors which they choose to ignore, while awaiting on-task and other appropriate behaviors to reinforce. They respond to the appropriate help-seeking by giving structure (citing proce dures, steps, objectives, materials to use, etc.) and listen to (or observe) attentively student-initiated on-task or help-seeking behavior.

11. The Expository Teacher. This instructional style is characterized by student attentiveness and on-task integrative behavior. Students listen attentively, contribute appropriately, or engage integratively in discourse with the teacher or other students regarding the topic under discussion. The teacher tells, motivates, focuses attention, and asks students to apply the information given or produced. The Effective Expository Teacher may describe and explain concepts at a low cognitive level (e.g. memory of facts or use of simple rules regarding one-to-one correspondence) or at a higher level (e.g. application of principles or rules regarding relationships between two or more variables which co-vary).

Key #

12. Rote Process. Rote Process is the label for a teaching style in which bits of information are given in a repetitious manner to be memorized by the student. The process is fixed and mechanical, not requiring thought. Spelling or number fact drills are common examples of this pattern or style of instruction. Students are attentive to the directions and cues given and respond submissively and appropriately when asked to recite or respond in writing. The teacher may also request the students to make use of the information given in practice exercises which require memory (of patterned drills and discrimination of appropriate responses).

13. Style A Treatment. The CASES treatment schedule designed for Style A pupils (dominative, actively aggressive, annoying, bothering, controlling, manipulative) includes prescriptions regarding curriculum as well as behavior management. The STARS teaching pattern key for the Style A Treatment focuses on the management dimensions of the schedule. The teacher who uses the Style A Treatment schedule employs a suitable "time-out" procedure in response to dominative, annoying, bothering, aggressive, or manipulative behaviors of pupils. Resistance, off-task behaviors, inappropriate help-seeking, daydreaming, physical and visual wandering behaviors are ignored. Teachers using this management style attend to and reinforce leadership (3a) and task-appropriate behavior (5a, 6a, 7a, 8a, 9a, 10) and provide task guidelines and logistical support (S) to students seeking assistance or following directions appropriately. This management style also includes motivational statements, questions regarding the cognitive status of the learners, and inquiries about their attitudes, opinions, and beliefs (when they are on-task).

14. Style B Treatment. The treatment for Style B (resistant, delaying, off-task, peer-oriented) students has many elements in common with the Style A treatment schedule. The primary difference lies in the absence of emphasis on conformity and submissiveness to authority. Such submissiveness is ignored rather than required and/or reinforced. In addition, the management pattern for Style B omits motivational comments to those students who exhibit leadership (3a) or adult attentive behaviors (6a) since such teacher behaviors tend to increase resistance and delay in conforming to instructions.

15. Style C Treatment. The treatment schedule for Style C (passive, withdrawn, dreamy) students may also be readily distinguished by comparing it with the treatment for Style A pupils. The treatment for Style C omits "time-out" as a technique to control behavior. Instead, all inappropriate behaviors are weakened by ignoring them when they occur and by reinforcing all appropriate behaviors. Structure (guidelines, steps, procedures, objectives, task-analyses, and designation of models) is increased in response to all pupil requests, whether appropriately phrased or sequenced or not. Since these students (Style C) tend to be overly submissive and docile they are not rewarded for such behavior; instead, they are given structure and motivated to proceed more independently.

16. Style D Treatment. Students who display Style D are peer dependent, distractible, and frequently off-task in response to the activities of peers. The treatment schedule calls for the same teacher responses characteristic of the Style A treatment, with the addition of structuring responses (verbalizing of guidelines, steps, procedures, objectives, etc.) paired with reinforcements in response to appropriate student behavior (5a, 6a, 7a, 8a). When Style D students are distracted (watching peers) the treatment calls for eliciting their attitudes, opinions, or beliefs (to be followed by increases in structure and reinforcers for on-task behavior).

17. Style E Treatment. Style E (attentive, adult-oriented, compliant) students are found to respond to a treatment very similar to that designated for Style C pupils. The primary difference is in the degree of structure provided. Rather than respond to adult dependence and inappropriate requests for assistance (9b) by giving guidelines, procedures, steps, etc., the treatment calls for the ignoring of inappropriate help-seeking. Appropriate requests for assistance (9a) are rewarded, but logistical guidelines are not given. Instead, the student is motivated to work out the problem using his/her own resources. The teacher may also respond to any task-appropriate behavior (5a, 6a, 7a, 8a) by motivating the student to discover the next steps in the task at hand on his/her own or to examine the cognitive processes he/she is experiencing to identify patterns, principles, or generalizations.

    The treatment for Style E behavior leads to an increase in Style F (assertive, socially integrative, task-oriented) or Style G (independent, self-motivated, task-oriented) behavior as appropriate to the setting and subject matter. Thus, the same treatment is used for all three styles.

18. The Responsive Explainer. This is an instructional style which is characterized by student initiated help-seeking and conformity to teacher direction. The Responsive Explainer responds to requests for assistance (9a, 9b) by giving increased structure (citing procedures, steps, objectives, materials to use, etc.); by explaining, describing, telling characteristics or attributes of concepts or principles; by motivating the students to use their own problem-solving skills; or by focusing student attention on selected dimensions or facets of the task at hand. The Responsive Explainer may also, at times, give structure, explain, motivate, or focus the attention of students who are submissively responding to directions (without waiting for specific requests for assistance).

19. The Supportive Guide. The Supportive Guide combines reinforcement for self-directed on-task behavior (5a) with support and structure for help-seeking (9a or 9b). Students who request assistance (either appropriately or inappropriately) are given structure (objectives, procedures, steps to take, materials to use, etc.) or are reminded of structure given previously. They are also motivated to apply their energies to the task. Appropriate help-seeking (9a) is also reinforced by verbal rewards (praise) and by assistance in the form of encouragements, teacher statements focusing on relevant details of the task, and requests for recall of specific relevant bits of information needed to solve the problem or complete the task. In contrast to the Responsive Explainer, the Supportive Guide does not tell, explain, or describe the answers or solutions to the problem at hand.

Key #

20. The Egocentric Instructor. With the exception of the use of aversive techniques and frequent citing of rules and standards for classroom behavior as a means of controlling pupil aggression and manipulative behavior in the classroom, this style is characterized by the teacher's digression from the subject matter at hand. The Egocentric Instructor not only voluntarily strays off-task, but is drawn into digression by student initiated off-task comments and digression (7b). The Egocentric Instructor identifies the subject matter to be investigated or discussed, but is easily diverted by topics or issues of personal interest.

21. Transductive. The Transductive Teaching Style is composed of three teacher behaviors - focusing on specific items or arrays of concrete material or representational data; asking for analogies or metaphors; and asking for applications of such analogies and metaphors in novel situations or settings. These teacher behaviors are responsive to the task-appropriate behaviors of students (5a, 6a, 7a, 8a, and 9a). Thus, a transductive teaching pattern includes focusing the attention of task-oriented students (5a, 6a, 7a, 8a, and 9a) on relevant items or arrays of data, soliciting analogical or metaphorical responses from them, and asking them to make use of such analogies and metaphors in problem-solving activities.

22. The Structuring Supervisor. The Structuring Supervisor responds, primarily, to students who are off-task. When they are on-task he/she remains observant but non-transactional. When students are observed to be off-task, he/she often gives structure (cites objectives, procudures, steps to take, materials to use, places to work, etc.). He/she does not remind them of rules and standards of behavior, but relies on the giving of structure and specific questioning to keep the students on-task. When questioning is used, the Structuring Supervisor asks students to recall relevant facts or to use specific bits of information as they attempt to complete the assigned task.

    This teaching style is likely to be found dominant when data are gathered in an individualized or program-directed setting on just one student, as in a case study. As the teacher responds to other students (who may have been off-task) the subject of the case study may be on-task (or assumed by the teacher to be on-task) and the teacher will be observed to be non-transactional with the subject.

23. Field Sensitive Teaching Style. The basis for the current characterization of "field sensitive" teaching (and its companion style - "field independent" - to be described next in Key # 24) is to be found in New Approaches to Bilingual, Bicultural Education by Castaneda and Ramirez (1975). The "field sensitive" teacher encourages and supports integrative and cooperative social interaction. He/she responds supportively to requests for assistance even if expressed inappropriately. The Field Sensitive Teacher gently restructures (reminds, cautions, guides) students who are integratively off-task (playfully interacting) or involved in inappropriate self-directed activity. Negative or aversive control techniques are characteristically not used by the Field Sensitive Teacher.

Key #

Instruction is expository and direct, supported by frequent motivational comments, learning cues, and focusing techniques. Students are frequently asked to recall and apply facts and concepts. The Field Sensitive Teacher also encourages the expression of values and personal opinions. He/she supports students who express their feelings and interests and responds integratively, by sharing his/her own feelings and points of view.

In summary, the Field Sensitive Teacher:

- displays physical and verbal expressions of approval
- uses personalized rewards
- expresses confidence in child's ability to succeed
- responds to children who are having difficulty
- guides and explains in step-by-step fashion
- uses modeling as an instructional technique
- encourages cooperative learning and group support
- relates learning tasks to personal lives of students
- models problem-solving strategies in daily lessons
- draws generalizations from the data presented
- humanizes the content of instruction and adapts it to the lives of the students in the class

24. Field Independent Teaching Style. As currently defined the "field independent" teaching style is based on distinctions made by Castaneda and Ramirez in their book New Approaches to Bilingual, Bicultural Education (1975)

The "field independent" teacher reinforces self-directed, task-oriented, independent behavior in students. Social interaction is not encouraged and students who initiate interaction are redirected toward independent activity. Instruction is focused upon self-discovery of concepts, principles, and generalizations through use of inductive, deductive, and analogical (transductive) techniques. The "field independent" teacher checks on skill and knowledge aquisition by testing for recall of facts and concepts and the application of principles and generalizations in transfer of learning tasks.

In summary, the Field Independent Teacher:

- is formal in relationship with students
- maintains a direct, authoritative instructional manner
- centers attention on the cognitive task or instructional objectives at hand
- encourages independent student achievement
- encourages competition between students
- teaches problem-solving strategies and analytical skills
- emphasizes abstract principles and generalizations as the outcome of learning
- emphasizes measurement and quantification in processing information
- uses inductive, deductive, and transductive discovery techniques
- discourages group-process techniques as modes of learning in the classroom

Key #

25. The Director. The Director sets limits and gives directions to students and they comply with his/her instructions. He/she also reminds students of the rules, expectations, limits, and procedures set down previously as guidelines or standards for behavior (in a positive, gentle way). Students who ask for assistance or guidance are given appropriate rules, guidelines, or specific procedures to follow. When students are off-task the Director may gently redirect them by suggesting alternative activities or by making changes in their assignments. The teacher may physically guide or physically redirect them in a gentle way. Negative affect is characteristically not a feature of this management style.